

(19) World Intellectual Property
Organization
International Bureau



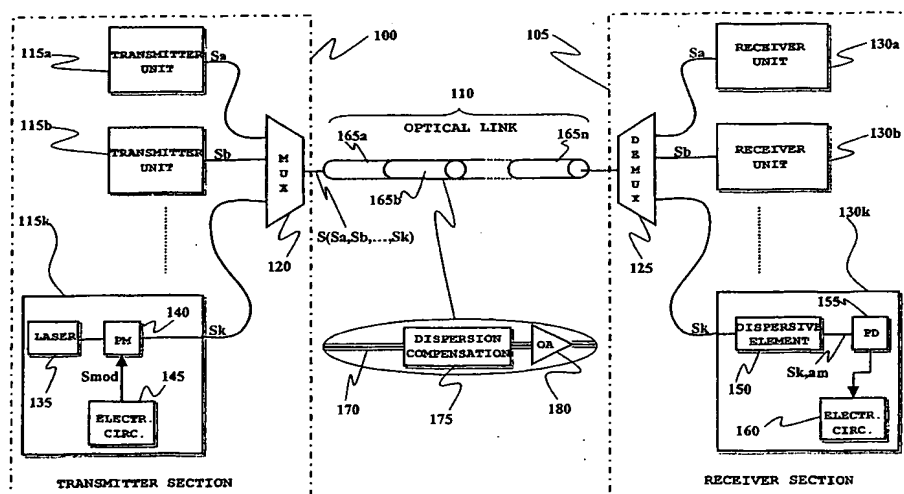
(43) International Publication Date
17 June 2004 (17.06.2004)

PCT

(10) International Publication Number
WO 2004/051893 A1

- (51) International Patent Classification⁷: **H04B 10/18**
- (21) International Application Number:
PCT/EP2002/013514
- (22) International Filing Date:
29 November 2002 (29.11.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (71) Applicant (for all designated States except US): **PIRELLI & C. S.p.A.** [IT/IT]; Via Gaetano Negri, 10, I-20123 Milano (IT).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **MARAZZI**, Lucia [IT/IT]; c/o Pirelli Cavi E Sistemi S.p.A., Viale Sarca, 222, I-20126 Milano (IT). **MARTINELLI**, Mario [IT/IT]; c/o Pirelli Cavi E Sistemi S.p.A., Viale Sarca, 222, I-20126 Milano (IT). **MELLONI**, Andrea [IT/IT]; s/c Pirelli Cavi E Sistemi S.p.A., Viale Sarca, 222, I-20126 Milano (IT). **PARADISO**, Livio [IT/IT]; c/o Pirelli Cavi E Sistemi S.p.A., Viale Sarca, 222, I-20126 Milano (IT). **PAROLARI**, Paola [IT/IT]; c/o Pirelli Cavi E Sistemi S.p.A., Viale Sarca, 222, I-20126 Milano (IT).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: OPTICAL COMMUNICATION SYSTEM



(57) Abstract: An optical communication system, comprises: a transmitter (100) generating a phase-modulated optical signal (S_a, S_b, \dots, S_k); a receiver (105) receiving the phase-modulated optical signal; an optical communication link (110) between the transmitter section and the receiver section. The optical communication link is a dispersion-managed optical communication link comprising dispersion-compensating elements (175; 175a, 175b), propagating the phase-modulated optical signal at substantially constant optical power. The receiver comprises a dispersive element (150; 550; 650a, 650b) having a prescribed dispersion, the dispersive element receiving and converting the phase-modulated optical signal into a corresponding intensity-modulated optical signal, and an optical intensity detector (155; 655a, 655b) fed with the intensity-modulated optical signal.